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OPERATION ROLLING THUNDER: STRATEGIC IMPLICATIONS OF AIRPOWER DOCTRINE

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## ABSTRACT

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This SRP examines Operation ROLLING THUNDER (1965-1968) bombing campaign in the context of military Principles of War and their applications. It analyzes accomplishment of strategic objectives and future implications for applications of airpower doctrine. It reviews the pre-Vietnam strategic situation, discussing its military, political, social, global, and doctrinal characteristics. It then analyses Operation ROLLING THUNDER by phases, focusing on its controversial aspects. This analysis concludes that Operation ROLLING THUNDER failed to accomplish most of its strategic objectives. It offers several contributing factors to account for this failure. This SRP concludes with examination of the lessons learned about airpower doctrine and of the strategic implications of Operation ROLLING THUNDER for the overall war effort in Vietnam.



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## OPERATION ROLLING THUNDER: STRATEGIC IMPLICATIONS OF AIRPOWER DOCTRINE

The Vietnam War is one of the most controversial events in the U.S. history. It has been extensively researched, documented, and reviewed since the wars' conclusion in 1975. In the early to mid-sixties the global environment was confusing and dangerous. The U.S. was working to establish itself as the leader of the free capitalist world and the enemy of communism. Internally the U.S. was beginning a period of self-examination and internal challenge with the emergence of the civil rights movement and President Johnson's "Great Society."

The U.S. military was coming off a stalemate in the limited war in Korea. At the time, we were training and organizing like the force that won World War II (WW II) against Germany and Japan. Consequently many of its doctrinal principles, especially with respect to airpower and its application toward conflict resolution, were vestiges of WW II and the Korean War experience.

The assassination of President Kennedy catapulted Lyndon Johnson into a briar patch. Enamored and committed to building the "Great Society," he was now burdened with the responsibilities of foreign affairs and stifling communism. Could the U.S. build a Great Society and stave off communism at the same time? While Johnson struggled to find an acceptable solution to the Vietnam War, his highest priority remained the President's domestic agenda.

Our experience in the Cuban Missile Crisis in 1962 helped shape many of the strategic programs to contain the threat of communism and the Soviet Union. The desire to fight communism played a large part in U.S. engagement in Southeast Asia.

Throughout our involvement in Vietnam, the U.S. was indecisive about how to proceed. Our mission and purpose for engaging the North Vietnamese were not clearly defined. There was little if any cohesion between the political objectives presented the militarily mean to achieve them. Operation ROLLING THUNDER exemplifies a micromanaged operation that ignored the capabilities, experience and doctrine of the armed services.

President Johnson was inclined to take the advice of his divided civilian advisors, rather than his military advisors. The rift between the administration and military leaders created an environment that was not conducive to establishing a dialogue to accurately assess the situation in Vietnam and proceed accordingly. The administration was wedded to the idea of using airpower as part of a carrot and stick approach, inconsistent with airpower doctrine. They believed that we could use bombing raids as a show of resolve and punish the insurgents in



South Vietnam. Military advisors, drawing upon history and experience, advocated stifling communism by defeating the enemy.

The Vietnamese conflict was a tumultuous time for the U.S., and for our armed services. Operation ROLLING THUNDER taught us many valuable lessons.

The strategic fallout from the Vietnam War prevailed for years after the end of the war. The implications for the military, specifically within the Air Force, were great. They impacted future thinking about strategic bombing doctrine, civil-military relations and bureaucratic politics. They also affected future organization and training within the Air Force.

## **STRATEGIC SITUATION PRE-VIETNAM WAR**

### **PERCEPTIONS**

In the early 1960's the political situation in South Vietnam was in a state of disarray. South Vietnamese leaders needed immediate assistance. President Ngo Dinh Diem was assassinated in 1963, then the country went through a series of coup attempts by military leaders. This unstable political situation was accompanied by an even more ominous military situation. North Vietnamese Army (NVA) forces were pouring across the Demilitarized Zone (DMZ) to assist the indigenous insurgent, the Viet Cong (VC). The South Vietnamese Army (SVA) was becoming less effective, morale was suffering, and the enemy seemed to be getting stronger as the steady flow of men and material down the Ho Chi Minh Trail accelerated.

Henry Kissingers' statement after years as Secretary of State with the Nixon administration sums up the U.S. situation in the sixties:

We had entered the Korean War because we were afraid that to fail to do so would produce a much graver danger to Europe in the near future. But then the very reluctance to face an all-out onslaught on Europe severely circumscribed the risk we were prepared to run to prevail in Korea...Ten years later we encountered the same dilemmas in Vietnam. Once more we became involved because we considered the warfare in Indochina the manifestation of a coordinated global Communist challenge of which Indochina seemed to be a part also made Vietnam appear as unprofitable place for a showdown...

—Henry Kissinger <sup>1</sup>

The U.S. was global power fighting for democracy and against communism, primarily the Russians and the Chinese. In addition, the U.S. was involved in Latin America, Africa, and the Middle East. Our global presence shaped the way that the U.S. looked at the world and would eventually shape the American view of Vietnam. This nurtured an "us versus them" or

“democracy versus communism” mindset within the U.S. government. A State Department white paper reflects this attitude:

While attention is diverted elsewhere – to Berlin, to negotiations over Laos, to turmoil in the Congo, to the United Nations itself, as well as to dozens of other problems – the communist program to seize South Viet-Nam moves ahead relentlessly.<sup>2</sup>

The magnitude of the communist challenge consumed the foreign policy of the U.S. When the situation in Vietnam escalated to include both the North Vietnamese government and the Viet Cong, that threat was viewed as part of an overall communist effort. This resulted in U.S. commitment to preserve South Vietnam for the free non-communist world.

The U.S. did not view the situation in Vietnam as a civil war between the communist government in the north and the elected government in the south. The U.S. felt that it was fighting an overall communist scheme rather than an enemy that was embroiled in a civil war and that derived its power and passion from the will of the people. This overwhelming anti-communist opinion would play the most important factor in the perceived need of the U.S. to become involved in Vietnam. It also was the genesis for the bombing campaign known as Operation ROLLING THUNDER.

This anxiety about an overall communist plan fed fears of confrontation with Russia and China. Memories of the Chinese involvement in the Korean War fueled the escalation fears, especially concerning future military activities in North Vietnam. Fear of Cold War expansion manifested itself as the dominant and limiting factor for the Johnson administration as it worked to establish objectives. Shortly after assuming office Johnson made clear his escalation concerns regarding China:

Over this war-and all Asia-is another reality: the deepening shadow of Communist China. The rulers in Hanoi are urged on by Peiping. This is a regime which has destroyed freedom in Tibet, which has attacked India, and has been condemned by the United Nations for aggression in Korea. It is a nation which is helping the forces of violence in almost every continent. The contest in Vietnam is part of a wider pattern of aggressive purposes.<sup>3</sup>

History will never know how valid those concerns were, since Johnson made every effort at least early on in the Vietnam War not to test the intentions of China or Russia. This policy would force decisions that adversely affected the ability of airpower to strike at what eventually

would be considered the center of gravity in Hanoi and Haiphong and would cause continued frustrations for Air Force leadership.

Johnson believed that with only a limited show of U.S. force both the Russians and the Chinese would clearly see U.S. intent and quickly back down. Johnson knew that the U.S. Congress and allies were watching our involvement in Vietnam with great interest. From the Congressional standpoint, Johnson realized that if he increased commitments of troops in support of National Security Action Memorandum (NASM) 273, the document that provided national security policy and guidance, he would run the risk of alienating public support and detract from his domestic agenda. On the world front, he was afraid that if too much attention and U.S. resources were allocated to Vietnam, then other countries might question U.S. commitment in their part of the world. So these overriding concerns led to a limited war; they also clouded many decisions and adversely denied many military options. Fears of communist escalation and domestic and international opinion also led to "negative objectives."

These negative objectives determined Johnson's "gradual response" strategy in Vietnam. This strategy clearly would not take advantage of a coordinated, all-out air campaign or the inherent strategic nature of airpower. Never the less, Johnson, through Secretary of Defense (SECDEF) Robert McNamara, directed his civilian and military staff to initiate a plan in "shaping such pressures as to produce the maximum credible deterrent effect on Hanoi."<sup>4</sup> In response, the JCS submitted Operations Plan (OPLAN) 37-64, the overall plan of execution for the airpower operation to McNamara. This SRP will later describe some of the related debates between Johnson's advisors during the various phases of Operation ROLLING THUNDER. The most concise example of limited political objectives was given by SECDEF McNamara during his testimony before the House Appropriation Committee (HAC) in January 1966:

Let me emphasize our objective. It is a limited one. We are not seeking to destroy the currently existing political institutions of North Vietnam. We are not seeking military bases in South Vietnam or long term military ties between that country and the West. We are seeking to ensure that its people have the right to determine their own destiny, and this is the why we are in conflict with those that seek to subvert South Vietnam's present government and seek to insure that South Vietnam is dominated by North Vietnam, and I think, by Communist China. Ours is a *limited political objective*.

We wish to minimize the military cost of achieving it, which means that we wish to avoid a wider conflict, assuming that we can achieve the political objectives which I have outlined without such armed conflict. It is quite clear, I think, to anyone who has studied the problem even superficially, that the foundation for the attack on the institutions of South Vietnam comes from North Vietnam. Not

only are the North Vietnamese infiltrating the men and material necessary to lead and support the effort, but they are literally hour by hour supplying the political and military machinery to carry it on. But we believe that we can, militarily, achieve the political objective by proving to the North Vietnamese that they cannot win in the south, while at the same time by bombing the North, forcing him to *pay a high price for his aggression*.

Our bombing operations were initially started for several reasons. One was to *raise the morale of the South Vietnamese people* who were under intense pressure at the time. A second was to *reduce the flow of and or increase the cost of infiltration of men and material from North Vietnam into South Vietnam*. The third was to *apply political pressure*, through military action, on the government of North Vietnam, hopefully forcing them at some point to move toward negotiation. Those were our objectives then; they are our objectives now. A corollary of those objectives is the avoidance of any military risk. We, therefore, have directed the bombing against military targets, primarily the routes of infiltration...<sup>5</sup>

#### POLITICAL: THE JOHNSON ADMINISTRATION AND THE OBJECTIVES (ENDS)

I knew from the start that I was bound to be crucified either way I moved. If I left the women I really loved – The Great Society – in order to get involved with that bitch of a war on the other side of the world, then I would lose everything at home...But if I left that war and let Communists take over South Vietnam, then I would be seen as a coward and my nation would be seen as an appeaser and we would both find it impossible to accomplish anything for anybody on the entire globe.

—Lyndon Johnson <sup>6</sup>

The “bitch of a war” that Johnson refers to was the Vietnam War. This statement reflects his frustrations over achieving his domestic programs and winning the war. The notion of being pulled in competing directions stayed with him throughout his years in the White House and influenced policy in Vietnam.

Johnson found himself in a no-win situation with the Vietnam situation on one hand and his domestic agenda on the other. He realized the challenge and shortly after assuming the Presidency he issued NASM 273, which set the stage for American involvement in Vietnam:

It remains the central objective of the United States in South Vietnam to assist the people and government of that country to win their contest against the externally directed and supported communist conspiracy. The test of all U.S. decisions and actions in this area should be the effectiveness of their contribution to this purpose.<sup>7</sup>

Johnson placed the U.S. on the path to support of the South Vietnamese government in an effort to stop the spread of communism in Southeast Asia. The “us vs. them” mentality was the driving force in setting of American objectives. The objective was political and relatively simple: free South Vietnam from attack and make it independent. This was sufficiently noble objective for the American public, but for the military it was hollow, insufficient and dangerous. Johnson obligated the U.S. military to fight in Vietnam through dissuasion rather than for a military victory. He chose not to use decisive nature of airpower or to act strategically.

The “us vs. them” scenario was also in play between presidential advisors and military leaders. His senior leaders on the Joint Chiefs of Staff (JCS) disagreed with civilian advisors, many of whom brought preconceptions on strategy and policy from the Kennedy administration. This contention persisted throughout the Johnson administration as he attempted to bring the situation under control in Vietnam by using military means to accomplish his political objectives. The civilian-military relationship continued to challenge Johnson’s decision-making as he attempted to achieve political ends or objectives by means of military resources.

The President’s lack of confidence in military advice and leadership, conflicting views and opinions from civilian advisors, and the highly visible differences between civilian and military leaders to arrive at a best solution in a confident and truthful manner weighed heavily on Johnson. Most of the world events presented communist threats, and Vietnam was seen as an extension of that problem within Southeast Asia. Johnson’s civilian advisors looked at the bombing as a means to ensure the independence of South Vietnam.

The administration did not understand airpower or military doctrines. Consequently, it did not utilize airpower the way it was intended to be used. This negated Air Force to deliver acceptable, positive, and measurable results. To compound matters, senior Air Force leaders were late to recognize the nature of the conflict in Vietnam. Consequently they relied on a doctrine that would not solve the situation at hand. This caused frustrations for both civilian and military leadership and led to U.S. escalation of the war.

On the ground in Vietnam General Westmoreland, the Military Commander Advisory Command in Vietnam (MACV) and the JCS had to wage two different types of war. One involved the regulars from the NVA who represented the main force in numbers and capabilities. The second enemy or front fought were the VC forces, operating primarily at the provincial or local level. This complicated matters: Both represented a threat but had to be engaged at different locations and with appropriate forces.

Many believed that the NVA regulars were the primary force and should be neutralized prior to addressing the local guerilla threat. Westmoreland targeted the main enemy forces moving into South Vietnam and placed the majority of his forces in the southern part of the country. This concentration of forces and belief that the majority of the fighting would be in the south determined where and how Operation ROLLING THUNDER was prosecuted.

#### STRATEGIC BOMBING DOCTRINE (WAYS)

The political objectives pressed upon the military were stifling and inconsistent with the existing doctrine, particularly the Air Force strategic bombing doctrine. Air Force doctrine had developed from strategic bombing campaigns in WW II with Germany and Japan. The basic tenets of airpower doctrine were broken in Vietnam.

No longer was there unlimited ability to pursue the enemy and the ability to affect the will of the people by attacking vital centers of gravity. To compound matters, the Rules of Engagement (ROE) were restrictive and severely impacted mission effectiveness. Some disagreed with the conclusions of the Strategic Bombing Survey, at least in terms of the magnitude of effect. There is not much disagreement, however, that strategic bombing did change the course of the war and in conjunction with assistance from the other services, it was instrumental in winning WW II in both the European and Pacific.

Missions conducted during WWII initially targeted the industrial capability of Germany. But the fire bombings of Dresden in February 1945 and similar missions to Japanese cities in the spring of 1945, targeted civilians. Many of the early leaders in the Air Force were WW II veterans and embraced this doctrine. The "bomber mafia," in conjunction with the Strategic Air Command (SAC), was in charge of airpower through the wars in Korea and Vietnam.

The airpower doctrine and Johnson's "gradual response" policy were like oil and water. His political objectives may have been unacceptable and unobtainable through military means. Air Force leaders were unable to step back and modify the doctrine to develop acceptable alternatives to satisfy the political objectives they had to work with. They had no experience in working with political restraints in the bombing arena. Under these circumstances, it was difficult to succeed.

In Crosswind: The Air Force Setup in Vietnam, Earl Tilford asserts that "USAF strategic bombing doctrine [in this era] is Ethnocentric and Eurocentric, and is conceived utterly without regard to important cultural and political variations among potential adversaries." In short, Tilford argues that the Air Force relied on flawed doctrine in Vietnam. Accordingly, the Air Force

was unable to achieve acceptable, positive, and measurable results in Operation ROLLING THUNDER.

In spite of the political constraints senior Air Force leaders were confident about the doctrine. In 1965, General John McConnell, Air Force Chief of Staff, affirmed the doctrine:

The original concept of the JCS was to go into North Vietnam with a severe application of airpower. In fact our target list was 94 targets, which we intended to destroy in a total of 16 days. That process was disapproved. It was the 2<sup>d</sup> of March 1965, and we recommended what we called a sharp, sudden blow, which would have in our opinion done much to paralyze the enemy capability to move his equipment around and to support people in the south. That was disapproved...<sup>8</sup>

#### MILITARY (MEANS)

The military task confronting us is to make it so expensive for the North Vietnamese that they will stop their aggression against South Vietnam and Laos. If we make it too expensive for them, they will stop. They don't want to lose everything they have.

—Curtis LeMay, July 1965<sup>9</sup>

General LeMay's declaration in July 1965 validates the Air Force belief in the ability of airpower and strategic bombing to destroy the enemy's will to fight. It never occurred to the Air Force leadership that bombing might not be effective within the confines of a small country such as North Vietnam whose main war effort was to support insurgency forces with men and materiel. It also never occurred to them that the industrial make-up in North Vietnam was much different than it was in Germany, or even Japan.

At the beginning of the Vietnam War, the Air Force truly believed in the mission of strategic deterrence-primarily against the communist world. Both the training and senior leadership had developed and matured during the bombing campaigns in WWII. The Air Force believed that all future wars would be won by striking the industrial centers of the enemy to deliver irreversible destruction. This was the basic doctrine of the Air Force senior leadership. It also provided the basis for specific resources and weapon systems and the corresponding training. In Rolling Thunder: Jet Combat From WWII to the Gulf War, Ivan Rendall perfectly summarizes the situation:

American fighter pilots had been trained to fight a different kind of war, one which did not include dog fighting with guided missiles. The USAF, born to fight the Cold War on massive scale, suddenly found itself fighting a small, intimate, close-up, counter-insurgency war with the wrong equipment and the wrong training, and being expected to do it under severe political limitations.<sup>10</sup>

The two weapon systems that were the mainstays of Operation ROLLING THUNDER were the F-105 Thunderchief and the F-4 Phantom. The F-105, more commonly known as the “Thud,” was designed to fight the Cold War, primarily the Russians, by flying high-speed interdiction missions with nuclear weapons into the Soviet Union. The Thuds were being tasked to fly a different type of interdiction mission in Vietnam: they were delivering conventional “iron bombs” which required lower flight levels and therefore reduced speeds. This increased the vulnerabilities of the aircrews.

The Phantom was an incredibly durable and versatile aircraft which performed many types of missions in Vietnam. Its speed made it a much better aircraft than the F-106 Super Sable for interceptor missions. With the introduction of the RF-4C Wild Weasel, it replaced the RF-101 Voodoo as the preferred reconnaissance asset.

## **OPERATION ROLLING THUNDER - THE CAMPAIGN**

Operation ROLLING THUNDER was the longest strategic bombing campaign in the history of the United States Air Force – lasting for three years and nine months, from March 1965 through November 1968. Each phase of the campaign and the associated debates that prefaced each phase are discussed in this section. Additionally, we will review the specific targeting and assess its contributions to the overall campaign objectives. Finally, we will discuss specific restraints and constraints and their effects on the effectiveness of airpower in Vietnam.

In Rolling Thunder: Understanding Policy and Program Failures, J.C. Thompson defends the thesis that “the agony of American involvement persisted because of the nature of the organizations within the U.S. government that dealt with questions of foreign policy.”<sup>11</sup> Thompson argues that groups will generally follow some organizational norms that result in consensus and finally determine foreign policy. These debates, issues, and actors thus frame the action and intent in the campaign phases.

The first phase of Operation ROLLING THUNDER began in March of 1965. Many fail to realize that the U.S. had been covertly involved in Southeast Asia since the early sixties. This covert involvement would evidently lead to direct confrontation with North Vietnam. Further,



Johnson's National Security Council (NSC) had varied opinions and understanding of U.S. purpose and involvement in Vietnam. The political situation in Saigon 1963 was unstable following the assassination of President Ngo Dinh Diem and associated coups by military leaders. An Operations Plan (OPLAN 34A) was approved by Johnson shortly after he assumed office. In November 1963, OPLAN 34A emphasized intelligence gathering and psychological operations that were designed to damage the North Vietnamese economy. Much of the intelligence gathering was done via coastal patrols. On 2 Aug 1964 a North Vietnamese patrol boat fired upon the Destroyer U.S.S. Maddox. Two days later another attack was reported; subsequently Johnson ordered his first reprisal air strikes. The incidents become known as the Gulf of Tonkin Crisis, in response to which Johnson received implicit authority of the U.S. Congress through the Gulf of Tonkin Resolution to carry military actions far beyond those originally intended. This would be the genesis of the reprisal concept via airpower and what would eventually be known as the "graduated response" strategy. Perhaps the most far-reaching effect of the Gulf of Tonkin Crisis was that it paved the way for future U.S. commitment.

Additionally, it should be pointed out that the incident with the U.S.S. Maddox was a harbinger of things to come as far as understanding of the actual operations and the policy-makers' intentions. Although the operators aboard the U.S.S. Maddox were aware of the covert intentions of their intelligence gathering mission they quickly reverted to standard operating procedures once attacked. Johnson's close advisors held differing views during the campaign and those opinions varied as it progressed through each phase. In order to better understand the initial positions prior to initiating the campaign here is a summary of the key players' basic views on the war:

- Ambassador Maxwell Taylor – favored strikes to help morale/relations of South Vietnam
- U.S. Pacific Command /JCS/MACV – advocated all-out escalation
- Robert McNamara (SECDEF) – proposed graduated response
- Walter Rostow (Chief Policy Planning Council) – advised continued pressure showing US resolve
- Dean Rusk (Secretary of State) – agreed with SECDEF on graduated response
- George Ball (Undersecretary of State) – disagreed with everyone: cut and run

All but George Ball recommended some form of military action. Even prior to the first phase of the campaign, there was some disagreement about the precise ends of U.S. policy.

However, all parties agreed that military airpower would be instrumental in execution of U.S. policy. As the covert missions failed to achieve results, Johnson authorized the JCS campaign plan on 13 February 1965. The bombing campaign entitled Operation ROLLING THUNDER was planned by the JCS to be a 12-week campaign, even though General McConnell believed that the objectives could be accomplished in 29 days. There were basically three objectives for Operation ROLLING THUNDER: "The first was strategic persuasion. The second objective was to raise the morale of military and political elites in South Vietnam. The third objective was the only real tactical one of the campaign: interdiction."<sup>12</sup> The campaign officially started in February 1965; however, it was not until 2 March 1965 that the first launch of a scheduled mission targeted an ammunition depot at Xom Bang, North Vietnam. Several weeks later a second mission was authorized for a South Vietnamese crew to strike a radar installation on Tiger Island. The majority of the missions within the first phase targeted North Vietnam's logistical systems which were believed to be the sources for much of the supplies that the insurgent forces were receiving. These strategic persuasion or interdiction missions would continue throughout the air campaign. However, the level of intensity and the manner in which the campaign was being pursued was not what the JCS or General McConnell had in mind. Washington was in complete control of the missions - scheduling the dates, specific targets, type of armament, and even the type of strike (such as armed reconnaissance or interdiction or preplanned strikes). Activity and sortie rates climbed following a conference in Honolulu with McNamara and his military leadership, who continued to push for an intensified campaign. Johnson had from the beginning looked at Operation ROLLING THUNDER as a "carrot and stick" operation, one that offered domestic assistance or negotiation for reduced support of the insurgent forces as the carrot. Of course, bombs were considered the sticks; they were used to show resolve and to punish those assisting the insurgency in South Vietnam. Although the sortie rate climbed during this phase, the troubling target selection process had been established and continued during the famous "Tuesday Lunch" sessions at the White House. Not only was the targeting process inefficient, it also severely limited the effects of airpower. Both Hanoi and Haiphong were spared by prohibitively restrictive zones that buffered the cities. Airfields were off limits, as were many industrial plants as well as targets that were within the China buffer zone. Interdiction efforts were for the most part unsuccessful: the road systems were quickly repaired by bicycle brigades, and damaged bridges were bypassed or placed just under the water level and thus hard to detect. The VC were not receiving as much support from Hanoi as had been anticipated; they were living off of the villages as they moved around South Vietnam. Although airpower was hitting intended targets, the limits on lucrative targets in the

Hanoi and Haiphong areas, along with lack of a constant and intense effort, hindered interdiction. Likewise, bombing halts and bad weather hindered the effort to stop the infiltration of North Vietnamese soldiers into South Vietnam. Estimates varied:

The CIA and DIA, in their December 1965 "Appraisal of the Bombing of North Vietnam, reported that despite 55,000 sorties and the dropping of 33,000 tons of bombs, damage has neither stopped nor curtailed movement of military supplies and created no evidence of serious problems due to shortages of equipment.<sup>13</sup>

The second phase of the campaign was the shortest, carried out during several months in the summer of 1966. The primary targets during this phase were the Petroleum, Oil, and Lubrication (POL) facilities in North Vietnam. Despite the destruction of 60% of its storage facilities, the North Vietnamese had dispersed POL drums throughout the countryside, enabling them to continue the push south with little delay. By August most POL targets had been hit, but the ability to sustain military operations seemed to be unaffected. As POL targets were struck in Vietnam, the debate in Washington between the "hawks" and "doves" raged. General McConnell continued his push to intensify the campaign, and most of the NSC remained committed to the current bombing campaign (except for George Ball). McNamara, however, was starting to have doubts and ordered a study by the Institute for Defense Analysis. These findings were critical of the bombing results on North Vietnam. Responding to these doubts, McNamara offered Johnson an alternative strategy that would create an anti-infiltration zone across North Vietnam, South Vietnam, and the Ho Chi Minh Trail in Laos. This was a watershed event for McNamara, as he would from this point forward become a proponent of de-escalation. But Johnson was on the verge of committing additional ground troops and the military would use this as an additional reason to continue the bombing. The JCS were stuck in a difficult position as they struggled to bring themselves to the realization that this form of interdiction was not reducing the North Vietnamese support to the insurgency forces. On one hand they could not admit that airpower was failing. But, on the other hand, they had to request a change to the operation, which in itself signaled failure. Of note during this phase were the Congressional hearings before the Senate Armed Service Committee (SASC), chaired by Senator Stennis. During the Stennis hearings, the JCS was vindicated with respect to its position on the escalation of bombing. McNamara, who had recently shifted to the de-escalation side of the debate, was basically rebuffed by the SASC. The results of the hearing were not that much of a surprise, considering that Senator John Stennis was a strong supporter of the military and an airpower advocate. However, the results provided the needed validation

for the JCS and encouraged Johnson to approve some additional targets and loosen restrictions. This triggered the third phase of the campaign.

The third phase of the campaign was the most intense in terms of numbers of sorties and bombs dropped. The weather had cleared and some new targets had been authorized by Commander in Chief Pacific. There were six basic target systems: electrical power, war supporting industry, transportation support facilities, military complexes, petroleum storage facilities, and air defenses.<sup>14</sup> However, we will never know whether this campaign could have succeeded. In January 1968 the VC, launched a massive ground attack throughout South Vietnam known as the "Tet Offensive." The VC, with support from the NVA, simultaneously attacked 36 of the 44 provincial capitals in South Vietnam during a ceasefire period to recognize the Vietnamese New Year. Significantly, the VC suffered massive casualties and a tactical defeat; they would never again through the course of the war be considered a legitimate fighting force. Yet the Tet Offensive was a strategic victory for North Vietnam. MACV appeared on television the day after Tet began stating that the U.S. had won on almost all fronts and that the VC was practically destroyed. At the same time the public saw horrific captions of police shooting unarmed men in the streets of Saigon and of footage from a battle that did not look like a victory. Whether the North Vietnamese understood or consciously believed that they could change the impression of the American public is unclear, they had capitalized on a Clausewitzian principle:

Not every war need be fought until one side collapse. When the motives and tensions of war are slight we can imagine that the very faintest prospect of defeat might be enough to cause one side to yield. If from the very start the other side feels that this is probable, it will obviously concentrate on bringing about this probability rather than take the long way round and totally defeat the enemy.<sup>15</sup>

In short, the North Vietnamese created the illusion of a U.S. defeat among the American public, which witnessed the VC sappers penetrating the confines of the U.S. embassy in Saigon. Following the Tet Offensive, Johnson refused Westmoreland's request for an additional 206,000 troops. And the third phase of the Operation ROLLING THUNDER died on the vine.

The forth phase of Operation ROLLING THUNDER was the de-escalation phase in April 1968 shortly after the Tet Offensive. The Tet Offensive had ended the debate over the viability of escalation. Johnson gradually pursued a revised policy of de-escalation. By this time Johnson was in agreement with most all of his civilian staff, which now included Clark Clifford, who had replaced Robert McNamara as Secretary of Defense in February 1968. Additionally, Johnson

was suffering from the stress of continued bombing campaign failures to bring about some form of success in attaining any of the initially stated objectives. Johnson was also in the middle of the election process. Needless to say, public opinion was wavering and anti-war feelings were rising rapidly. Both Senator Robert Kennedy and Senator Eugene McCarthy were running for election on a platform to end the war, and McCarthy won the New Hampshire primary with approximately 42 % of the vote. On 31 March 1968 Johnson announced that he would not accept the Democratic nomination for the Presidency. Committed now to de-escalation, Johnson restricted bombing north of the 20<sup>th</sup> parallel on 1 April 1968 and then restricted bombing north of the 19<sup>th</sup> parallel the next day. This change in policy dramatically altered Air Force tactics. Airpower would now focus on vehicles, storage areas, and the predictable filter points in the mountainous paths below the 19<sup>th</sup> parallel. The typical strike packages used in this phase were smaller than in earlier phases, typically a two- ship minimum, rather the standard four- ship. The mission would provide continuous radar coverage over an area until a target of opportunity presented itself. Despite the tactical successes that Operation ROLLING THUNDER had in each phase Johnson announced on 1 November 1968 that the US would halt all bombing in Vietnam including Close Air Support. Air Force officials such as General Momoyer in Airpower in Three Wars assessed the campaign:

Along with the counter-air campaign, interdiction of the major LOC's (lines of communication) in the northern routes also had been effective. All the main bridges were down, and most of the marshalling yards were blocked. A single throughline was kept open at great expensive in repair crews.<sup>18</sup>

But numbers tell another story, even though airpower advocates saw successes:

Rolling Thunder had involved 300,000 aircraft sorties to drop 600,000 tons of bombs at a cost 382 aircrew know to have been killed and another 702 missing in action. The United States lost 392 aircraft in 1968, 257 to ground fire, at a cost \$450 million in that year alone. The total number of combat aircraft lost was 900.

<sup>16</sup>

Further evidence shows that Operation ROLLING THUNDER failed to meet its objectives. There certainly were some serious strategy failures in terms of matching an appropriate military means to the overall political strategy in Vietnam. Obviously, the U.S. underestimated the will of the North Vietnamese people. Regardless of whether the political objectives of the Johnson administration were appropriate, in a democracy politicians determine the why and what of

conflict. However, it is usually up to the military to determine the specific means. In the end, the success or failure of the politicians' plans will be determined by the effectiveness of the military. The next section of this SRP will apply military Principles of War to the conduct of Operation ROLLING THUNDER.

## **MILITARY PRINCIPLES OF WAR**

### **OBJECTIVE**

The most critical Principle of War is the Objective; it sets the stage for the other aspects of war and determines the remaining principles. Unfortunately, the U.S. failed miserably in the achievement of the objective both in the overall Vietnam War effort and in Operation ROLLING THUNDER. Consider the objective that General Eisenhower issued to his subordinate commanders just prior to initiating Operation Overlord in 1944: "You will enter the continent of Europe and, in conjunction with the other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces."<sup>17</sup> Eisenhower's objective was clear and understandable at all levels; it specified a positive and definite end state, one that would remain consistent both politically and militarily through the push to Berlin. Unlike Eisenhower in WW II, Johnson created objectives for the U.S., which were seen to be politically and diplomatically feasible, but were confusing and unobtainable at the operational level. Pushed into a decision by world perceptions, coupled with a fear of communism and a lack of understanding of the type of conflict and the will of the people of North Vietnam, U.S. political objectives were not well framed. Consequently, "the political object - the original motive for the war - will determine both military objective to be reached and the amount of effort it requires."<sup>18</sup> The U.S. government was more concerned with stopping the spread of communism and supporting the government of South Vietnam than with defeating an enemy or winning a war. Johnson's "negative objectives" would be thrust upon the military and would greatly affect airpowers' capability and results of airpower.

Conversely, as the U.S. struggled to set realistic and obtainable objectives, the North Vietnamese government remained single-minded: This was not a "limited war" to them; rather, it was an "unlimited war" that would be totally focused on the conquest of South Vietnam and establishment of a Vietnam unified under a communist government in Hanoi. John Collins of Congressional Research Service observed that:

Enemy strategy can be outlined quickly, since it was simple, concise, and consistent...the opposition knew what they wanted to do, they had the initiative, and they had the winning combination...Controlling and communizing all of Indochina have always been the foe's overriding objectives <sup>19</sup>

## OFFENSIVE

The failure to determine a single and clear objective for Vietnam would lead to a passive strategic policy, which would limit how the U.S. would fight the war. That policy would result in the U.S. fighting a passive war with instruments of military power designed for offensive action. As we noted earlier, the military advisors continually pushed for the escalation of bombing and permission to take the fight to the North Vietnamese. By not allowing airpower to be utilized offensively during Operation ROLLING THUNDER, Johnson showed that he did not understand the inherent nature of airpower as an offensive weapon. Aerial combat is much different than ground warfare: the vastness of airspace promotes offensive actions rather than defensive or protective measures. Defensive tactics are counter-productive. Since you can be attacked from any direction by airpower, it is therefore imperative that air leaders be allowed to force the fight and take the offensive to the enemy. Bombing halts and cease-fires hindered a continuous and concentrated offensive strategic bombing campaign; they allowed the North Vietnamese to reconstitute their forces, reestablish their lines of supply, and generally outlast the American effort. The restricted and prohibited zones around Hanoi, Haiphong, and the Chinese border are indicative of the defensive nature of Operation ROLLING THUNDER. Indeed, the U.S. waited until late in the war during Operation LINEBACKER I & II and the Christmas bombings to take advantage of airpower as an offensive weapon. Even as U.S. will declined, this offensive effort probably convinced the North Vietnamese that it was time to negotiate seriously.

## MASS/ECONOMY OF FORCE/MANEUVER

Mass, Economy of Force, and Maneuver were all principles that the Air Force demonstrated with some degree of success during the air campaign. All of these principles are systematic to airpower, and the Air Force was able to observe these principles despite the restraints they operated under. The principle of Mass enables an armed force to achieve decisive results at a specific time and place. This was exactly what General LeMay and his air staff planners had in mind during the summer of 1964. Mass determined the 94- target plan

that was submitted to the JCS and McNamara; it was specifically designed to destroy the war-making elements of the North Vietnamese government. Through an intense, concentrated application of air power, they estimated American and South Vietnamese forces could destroy all targets in sixteen days.<sup>20</sup>

The principles of Economy of Force and Maneuver were also adhered to in Operation ROLLING THUNDER. Earl Tilford describes the effort:

A typical strike package consisted of several diverse elements complied to accomplish the two objectives of getting the fighter-bombers to their targets and then getting them home safe. The strike force, usually several squadrons of F-105's and F-4's, carried bombs of various sizes, but typically carried either 500 or 750 pound bombs. Because fighter-bombers loaded with bombs were vulnerable to interceptors, they were accompanied by one or more flights of F-4's armed with air-to-air missiles. This MiG combat air patrol (MiGCAP) might consist of just a single flight of four Phantoms for a smaller strike package, or could include several flights for larger efforts. Wild Weasel F-105's carrying ALQ-87 jamming pods and armed with AQM-45 Shrike or the more capable AGM-78 standard antiradiation missiles (ARM), flew ahead of the strike force to shut down or destroy the sites before the SAMs did any damage.<sup>21</sup>

Critics point out that although these strike packages were efficient in terms of the numbers of sorties, they were less than effective in their application of Mass due to the predictability and timing of the strikes.

#### UNITY OF COMMAND/SIMPLICITY

Colonel Harry Summers concludes in, On Strategy, A Critical Analysis of the Vietnam War, that "Although we did not obtain Unity of Command in the Vietnam War, this failing was not the cause of our defeat but rather the symptom of a larger deficiency-failure to fix a military attainable political objective."<sup>22</sup> In addition to burdening the military with political objectives, the Vietnam War consisted of a complicated mix of struggles that produced operational and administrative inefficiencies and organizational chaos. Admiral Grant Sharpe, Commander in Chief Pacific served as the single commander for Operation ROLLING THUNDER although he delegated much of the respective air efforts to the appropriate service chiefs, such as Commander of Pacific Air Force (COMPACAF) or Commander of Pacific Fleet (COMPACFLT). All of these individuals and offices were located in Honolulu, Hawaii, some 5,000 miles from the fight in Southeast Asia. Unlike the current Joint Forces Air Component Commander (JFACC) there was no single air commander in Vietnam. Rather the 2<sup>nd</sup> Air Division received



guidance from multiple sources- PACAF, PACOM, and the 13<sup>th</sup> AF out of the Philippines. In an effort to help eliminate confusion, PACAF replaced 2<sup>nd</sup> Air Division with 7<sup>th</sup> AF in 1966. Problems continued, however, because of the control arrangements whereby operational control (OPCON) over the fighter units remained with 7<sup>th</sup> AF, but administrative control (ADCON) was given to 13<sup>th</sup> AF. This resulted in a confusing command climate, so we lacked a coordinated and unified single focused air effort from all of the air assets in Southeast Asia. These problems-along with the strained relationship in Washington between the military and the Johnson administration-virtually guaranteed a confusing, convoluted, and nearly bizarre military operation.

While the U.S. effort was suffering from a serious lack of unity of command, the North Vietnamese were totally focused on the war effort. Many of their military commanders were also involved in setting the political direction for the war: for example, General Vo Nguyen Giap was both the military commander and a member of the Politburo.

## SECURITY/SURPRISE

The final two Principles of War are Security and Surprise. These two principles are frequently associated with many of the previous principles such as Mass, Maneuver, Economy of Force, and Unity of Command. They may be critical elements in the accomplishment of these principles, especially at the tactical level. Operation ROLLING THUNDER suffered under many restrictions especially the ROE's, that it became almost impossible to achieve these principles. For example, because of the sortie- generation approach to scheduling, the Air Force would plan and fly missions at certain times with certain numbers in order to demonstrate participation. This is similar to the Army's "body counts," which were used to determine success or failures, thus overlooking mission effectiveness. This process became so routine that the term "Dr. Pepper War" was soon coined. The term was used because the television advertisement stated that the best times to have a soda are, "10, 2, and 4." In addition to knowing when the air strikes were coming, all of North Vietnam was divided into flight sectors. Each one of the sectors had specific boundaries; more importantly, there were specific entry and exit lanes in each sector. The North Vietnamese installed the vast majority of their enemy defenses, such as anti-aircraft artillery and surface- to-air missiles sites, within these areas in order to take advantage of these lanes. Air Force planes and crews were thus programmed into "sitting ducks."

## STRATEGIC IMPLICATIONS AND LESSONS LEARNED

The Vietnam War and subsequently Operation ROLLING THUNDER produced a tidal change for many in the U.S.. The Vietnam War experience dramatically changed the manner in which we operate politically, militarily, socially, morally, and internationally. As complicated as the Vietnam War was, few experts would deny that at the time the U.S. left Vietnam in 1975 the objectives were viewed as failures and the war as a defeat.

Politically, Johnson was handed a situation in Southeast Asia that would quickly escalate and eventually consume his efforts in the White House. Johnson, who was the consummate politician, was caught in the middle between his "Great Society" programs and the threat of communism. Johnson and his civilian staff set political objectives that were aimed at showing U.S. resolve in the fight against communism, but were militarily unobtainable. Objectives to reduce the flow of men and materials into South Vietnam to apply pressure on the North Vietnamese government to stop insurgencies, and to raise the morale in support of the government in Saigon were all political in purpose. They provided the ends by which the administration felt that they could fulfill their global role without initiating further conflict with the Russian and the Chinese. This fear of escalation determined the political objectives and led to a "graduated response" of military actions, designed to punish insurgents, with the conviction that they would eventually understand the intent of U.S. policy and move out of South Vietnam. Operation ROLLING THUNDER was viewed as a way to execute this policy. However, political and doctrinal limitations would hamper the ability of airpower to accomplish the objectives. Johnson's civilian advisors did not understand the offensive capabilities of airpower, and they failed to also appreciate its liabilities as a defensive instrument constrained in its operations.

Although Operation ROLLING THUNDER would suffer from limitations such as the targeting process, bombing restrictions and ROE's, senior Air Force leaders were unable to evaluate the situation, change tactics, and effectively communicate their rationale through the civilian chain of command. The Air Force would continue to operate in Operation ROLLING THUNDER and throughout the remainder of the air war under a bombing doctrine that was derived from its WW II lessons and successes. This bombing doctrine was based on successful bombing of the industrialized nation of Germany and the comparable effects that bombing had on Japan in the Pacific theater. Additionally, senior leaders in both the Air Force and the JCS were unable to effectively assess the situation and offer viable military alternatives that might have been more appropriate to the political ends of the Johnson administration. Continued insistence on accelerated bombing would not only fail to achieve the political objectives, right or

wrong, but would eventually alienate the civilian staff, resulting in the loss of confidence in the military leaders and their policy. Operation ROLLING THUNDER was also unsuccessful in effectively observing most of the Principles of War. Regardless of the inappropriate objectives that the military leadership was given, they were less effective because of their lack of adherence to the Principles of War. Their lack of a clear military objective, their inability to act offensively, their confusing and ineffective organizational structure, and their inability to surprise and devastate the enemy all greatly contributed to the administration's view of the campaign.

If it is true that all wars are political in nature, then it must also be true that the ability of the military to successfully communicate and give its advice to the civilian leadership will be critical to future conflicts. We owe it to the American people to pass on what we have learned through our years of experience as military professionals to our designated policy makers and to ensure that those experiences are never forgotten. Airpower is not the answer for all situations. It must be applied properly, taking advantage of the inherent strengths and capabilities that it can bring to the fight. However, we must never forget that "flexibility is the key to airpower." We will certainly be called upon in the future.

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## ENDNOTES

<sup>1</sup> Harry Summers, On Strategy: The Vietnam War in Conflict (Carlisle Barracks, Strategic Studies Institute, 1989), 61.

<sup>2</sup> George Kahin and John Lewis. "A Threat to the Peace: North Viet-Nam's Effort to Conquer South Viet-Nam," Department of State Publication, no. 7308 (Washington, D.C. Department of State, 1965), 479-82.

<sup>3</sup> Ibid., 496-503.

<sup>4</sup> Department of Defense, The Senator Gravel Edition: The Pentagon Papers, 4 vols. (Boston: Beacon, 1972), 154.

<sup>5</sup> Congress, House of Representatives, Subcommittees of the Committee of Appropriations, Hearings before Subcommittee of the Committee of Appropriations. 89<sup>th</sup> Congress, 2d session, Washington D.C., 1966, 30.

<sup>6</sup> Doris Kearns, Lyndon Johnson and the American Dream (New York: Harper & Row Publishing Co., 1976), 263.

<sup>7</sup> Lyndon Baines Johnson, "President Commits the U.S. to the Vietnam War," National Security Actions Memorandum (NASM) 273, Washington D.C., 26 November 1963; available from [www.lib.utexas.edu/johnson/archives.hom/NSAMs/nsam273.asp](http://www.lib.utexas.edu/johnson/archives.hom/NSAMs/nsam273.asp); Internet; accessed 26 March 2003.

<sup>8</sup> Congress, Senate, Preparedness Subcommittee on Armed Service, Hearings before the Preparedness Subcommittee on Armed Service, Washington, D.C. 1967, all parts.

<sup>9</sup> Curtis LeMay and MacKinley Kantor, Mission with LeMay (Garden City, NY: Doubleday, 1965), 564.

<sup>10</sup> Ivan Rendall, Rolling Thunder – Jet Combat from WWI to the Gulf War, (New York: The Free Press, 1999), 141.

<sup>11</sup> James Thompson, Rolling Thunder: Understanding Policy and Program Failures. (Chapel Hill: University of North Carolina Press, 1980), 4.

<sup>12</sup> Earl Tilford, Crosswinds: The Air Force's Setup in Vietnam (College Station: Texas A&M University, 1983), 70.

<sup>13</sup> Ibid., 77.

<sup>14</sup> "The Big Air Strikes on Communist POL Storage, "Air Force Policy Letter for Commanders (15 July 1966): 31.

<sup>15</sup> Carl Von Clausewitz, On War (Princeton, Princeton University Press, 1976), 97.

<sup>16</sup> Tilford, 158.

<sup>17</sup> Lawrence Grinter and Peter Dunn. The American War in Vietnam, (New York: Greenwood Press, NY, 1987), 27.

<sup>18</sup> Carl Von Clausewitz, On War (Princeton, Princeton University Press, 1976), 81.

<sup>19</sup> John Collins, Grand Strategy: Principles and Practices, Annapolis: Naval Institute Press, 1973, 250-251.

<sup>20</sup> Congress, Senate, Preparedness Subcommittee on Armed Service, Hearings before the Preparedness Subcommittee on Armed Service, Washington, D.C., 1967, 212.

<sup>21</sup> Tilford, 86.

<sup>22</sup> Summers, 149.

## BIBLIOGRAPHY

- Allison, Graham. Essence of Decision. Boston Little Brown, 1971.
- Brodie, Bernard. War & Politics. New York: MacMillan Publishing Company, 1973.
- Clausewitz, Carl Von. On War. Princeton: Princeton University Press, 1976.
- Clodfelter, Mark. The Limits of Airpower: The American Bombing of North Vietnam. New York: The Free Press, 1989.
- Griffith, Samuel. Sun Tzu, The Art of War. London: Oxford University Press, 1977.
- Grinter, Lawrence, and Peter Dunn. The American War in Vietnam. Westport: Greenwood Press, 1987.
- Johnson, Lyndon Baines. "President Johnson Commits the U.S. to the Vietnam War." National Security Actions Memorandum (NSAM) 273. Washington, D.C., 26 November 1963. Available from [www.lib.utexas.edu/johnson/archives.hom/NSAM's/nsam273.asp](http://www.lib.utexas.edu/johnson/archives.hom/NSAM's/nsam273.asp) Internet. Accessed 26 March 2003.
- Kahin, George, and John Lewis. "A Threat to the Peace: North Viet-Nam's Effort to Conquer South Viet-Nam." Department of State Publication, no. 7308. Washington, D.C. :U.S. Department of State, 1965.
- Karnow, Stanley. Vietnam. A History. The First Complete Account of Vietnam at War. New York: The Viking Press, 1983.
- Kearns, Doris. Lyndon Johnson and the American Dream. New York: Harper & Row Publishing Co., 1976.
- McMaster, H.R. Dereliction of Duty. New York: Harper Perennial, 1997.
- Momyer, William. Airpower in Three Wars (WWII, Korea, Vietnam). Montgomery: U.S. Air University, 1973.
- LeMay, Curtis, and MacKinley Kantor. Mission with LeMay. Garden City: Doubleday, 1965.
- Rendall, Ivan. Rolling Thunder-Jet Combat from WWII to the Gulf War. New York: The Free Press, 1999.
- Summers, Harry. On Strategy: The Vietnam War in Context. Carlisle Barracks: Strategic Studies Institute, 1989.
- "The Big Strikes On POL Storage, "Air Force Policy Letter for Commanders." (15 July 1966): 31.
- Thompson, James Clay. Rolling Thunder: Understanding Policy and Program Failure. Chapel Hill: The University of North Carolina Press, 1980.

- Tilford, Earl H. Crosswinds: The Air Force's Set up in Vietnam. College Station: Texas A&M University Press, 1983.
- U.S. Congress. House of Representatives, Subcommittees of the Committee of Appropriations. Hearings before Subcommittees of the Committee of Appropriations. 89<sup>th</sup> Congress, 2d session, 1966.
- U.S. Congress. Senate, Preparedness Subcommittee on Armed Service. Hearings before Preparedness Subcommittee of the Committee on Armed Service. Washington, D.C.: GPO, 1967.
- U.S. Department of Defense. The Senator Gravel Edition: The Pentagon Papers. 4 vols. Boston: Beacon, 1972.
- Weigley, Russell. The American Way of War: A History of United States Military Strategy and Policy. Bloomington: Indiana University Press, 1973.
- Whatley, Douglas. The Effectiveness of Airpower in The Campaign over Vietnam. Montgomery: U.S. Air University, 1970.